

II. Remarks

On page 2 of the above-identified Office action, the Examiner made a restriction requirement under 35 U.S.C. 121 (*divisional applications*) and 37 CFR § 1.142 (*Requirement for restriction*) between:

- I. Claims 1-13, drawn to a semiconductor device, classified in class 257, subclass 324.
- II. Claims 14-17, drawn to a method of making a semiconductor device, classified in class 438, subclass 100+.

The Examiner has stated that the inventions are distinct from each other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05 (f)). In the instant case unpatentability of the group I invention would not necessarily imply unpatentability of the group II invention, since the device of the group I invention could be made by processes materially different from those of group II invention, for example, ***forming the device as claimed in the method claims with the electrically insulating layer other than ONO as is required in device claim 2.***

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Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

(Emphasis added.)

Claim 2 is a dependent claim, dependent on claim 1. Restriction practice requires that the widest scope of the invention is to be considered and compared, i.e. the scope of the *independent* claims. (Furthermore, claim 2 recites an aluminum oxide layer as an alternative to the ONO layer.)

Comparing and contrasting the claim features of independent product and method claim in a table:

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| <p>1. A nonvolatile memory cell comprising:</p> <p>a <i>vertical field-effect transistor</i> with a <i>nanoelement</i> designed as the channel region, the nanoelement containing at least one of a nanotube, a bundle of nanotubes, or a nanorod; and</p> <p>an <i>electrically insulating layer</i>, which at least partially surrounds the nanoelement, as a charge storage layer and as a gate-insulating layer, that electrical charge carriers can be selectively introduced into or removed from the electrically insulating layer and an electrical conductivity of the nanoelement can be influenced in a characteristic way by electrical charge carriers introduced in the electrically insulating layer.</p> | <p>14. A method for fabricating a nonvolatile memory cell, the method comprising:</p> <p><i>forming a vertical field-effect transistor</i> with a <i>nanoelement</i> designed as the channel region, the nanoelement containing at least one of a nanotube, a bundle of nanotubes, or a nanorod; and</p> <p>forming an electrically insulating layer, which at least partially surrounds the nanoelement, as a charge storage layer and as a gate-insulating layer, wherein the electrically insulating layer is designed such that electrical charge carriers can be selectively introduced into or removed from the electrically insulating layer and an electrical conductivity of the nanoelement can be influenced in a characteristic way by electrical charge carriers introduced in the electrically insulating layer.</p> |
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Comparing and contrasting the claim features shows that there is no or little difference in the recited subject-matter between the independent method claim and the independent product claim. Consequently, reconsideration of the restriction requirement according to 37 CFR 1.143 (*Reconsideration of requirement*) is requested on the grounds that the invention recited in the claims, as shown in the above table, are largely or virtually identical, and therefore seem *not* to constitute "independent and distinct inventions", i.e. as interpreted in MPEP § 802.01 (E8R3) appear *not* "PATENTABLE (novel and nonobvious) OVER THE OTHER" (emphasis in original).

As required by 37 CFR 1.143, applicants elects – provisionally and under traverse – Invention I, drawn to the semiconductor device, for prosecution at this time. The following claims read on the elected Invention/Species: Claims 1-13.

Applicants reserve the right to file a *petition under § 1.144 (Petition from requirement for restriction)* should the Examiner maintain and make final the requirement for restriction.

Applicants will consider in due time whether or not to file a divisional for any non-elected Inventions.

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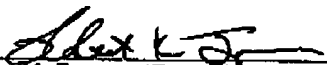
Conclusion

In view of the foregoing, the early issuance of an action on the merits, and the allowance of the claims are solicited.

Respectfully submitted,

January 19, 2007

Date


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